

REMARKS/ARGUMENTS

Claim Rejections Under 35 U.S.C. § 112

Claim 10 was rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner states that the claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. In particular, the Examiner objected to the phrase “greater than” in describing the relationship between thickness T1 and thickness T2.

Claim 10 has been amended to recite that the center region has a maximum thickness T1 at least twice a minimum thickness T2 of the first lateral region. Support for the amendment to claim 10 is found in the specification as originally filed at page 7, lines 4-8.

Claim Rejections Under 35 U.S.C. § 103

A. Claims 1-8 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Seiberling (U.S. Patent Number 4,166,883), or GB 2224031 to Uniroyal taken in view of Mirtain (U.S. Patent Number 4,065,338) and/or Böhm (U.S. Patent No. 4,089,360).

Claims 2 and 6-8 have been canceled from the subject application in this Amendment B.

Claim 1

Claim 1 has been amended to include the subject matter of now-canceled claim 2. Claim 1 has further been amended to recite “utilizing said press to in-line cure a predetermined portion of said continuous strip of elastomeric material by engaging said press platen with said predetermined portion of said continuous strip to preserve said cross-sectional profile, said predetermined portion having a length equal to or greater than a circumference of said associated tire building drum...” .

The Examiner proposes that a combination of the Seiberling ('883) reference with the Mirtain ('338) reference and/or the Böhm ('360) reference provides the claimed invention.

Alternately, the Examiner proposes that a combination of the GB ('031) reference with the Mirtain ('388) reference and or the Böhm ('360) reference provides the claimed invention.

The undersigned asserts that the Examiner has not made out a prima facie case of obviousness. Through the decisions of the CCPA and CAFC, certain well-established principles of claim review have been developed. If these principles are not met, a prima facie case of obviousness under 35 U.S.C. § 103 has not been established and the claim at issue should be allowed. Certain of these principles will be briefly discussed in relation to the individual claims rejected by the Examiner's proposed combinations.

THERE MUST BE A BASIS FOR THE COMBINATION/MODIFICATION: To present a prima facie case of obviousness, where the claims are rejected over a combination of references under 35 U.S.C. 103, there must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicant's invention itself. The Examiner may not pick and choose from various references to arrive at the claimed invention absent some teaching or suggestion in the references themselves.

The '883 reference does not teach or suggest a *method* of forming a profiled innerliner utilizing calendaring means to provide a continuous strip of elastomeric material having the claimed cross-sectional profile.

Further, the reference does not teach or suggest the steps of: providing a press platen with a pressing surface mating with a profiled surface of the continuous strip; and utilizing the curing press to in-line cure a predetermined portion of the continuous strip of elastomeric material by engaging the press platen with the predetermined portion of the continuous strip to preserve the cross-sectional profile.

Additionally, the reference does not teach or suggest a method of providing the predetermined portion having a length equal to or greater than a circumference of said associated tire building drum; winding the predetermined portion onto said associated tire building drum *after* the step of utilizing the curing means; cutting the predetermined portion to provide splice

surfaces after the step of utilizing the curing means; and, forming the precured innerliner by joining said splice surfaces.

In the reference, the disclosed innerliner 6 contemplates a uniform thickness throughout its width. There is no suggestion that the precured innerliner may be modified according to the Examiner's proposal.

The '338 reference teaches an uncured inner liner used to form a tire in a mold having a bladder. The reference does not teach or suggest a *method* for forming a precured innerliner. Therefore, there is no motivation for a combination of the references.

The GB '031 reference teaches particular rubber compositions that are partially cross-linked to a gas-impermeable state after pre-heating, for example, at a temperature of 150°C for approximately five minutes or initially cross-linked via electron radiation. There is no teaching or suggestion of a method for using a press to in-line cure an innerliner in order to preserve the claimed predetermined cross-sectional shape.

Mirtain '338 provides a profiled *uncured* liner. There is no teaching or suggestion of a method for using a press to precure a portion of a continuous strip in order to preserve a cross-sectional profile. According to the teachings of this reference, the profile is smoothed out during the cure process. This reference therefore teaches away from preserving the profile as the line is cured.

Böhm '360 teaches selective pre-curing of layers of a laminate. The targeted cure occurs upon exposure to irradiation. This reference does not teach or suggest a method of using a press with a profiled platen in order to precure an innerliner while maintaining a predetermined cross-sectional profile.

There are no references cited that show a method of providing a precured innerliner incorporating a step of using a profiled press platen that is adapted to receive and cure a predetermined portion of a profiled calendared strip so that the profile is preserved during cure. The Examiner's mere insistence that such a modification would be obvious does not make it so. Further, there are no references that show that the predetermined portion of the profiled calendared strip that is cured has a length equal to or greater than a circumference of an associated tire building drum.

Claims 3-5

Claims 3-5 each ultimately depend from claim 1. As such, the comments addressed to claim 1 apply equally well to claims 3-5 and are incorporated herein by reference.

As to claim 3, none of the cited references teach or suggest a method including the step of winding a predetermined precured portion of the continuous strip having a predetermined cross-sectional profile onto a holding roll before it is wound onto a tire building drum. According to 35 U.S.C. § 103, the invention *as a whole* must be considered.

As to claim 4, none of the cited references show singly or in combination all of the features of claim 4 including providing a splice angle of at least 80°.

As to claim 5, none of the cited references show singly or in combination all of the features of claim 5 including using an adhesive to join the splice surfaces.

Claim 10

Claim 10 provides a *method* for providing a precured innerliner formed by utilizing calendering means to provide a profiled elastomeric strip. A press is then utilized to in-line cure a predetermined portion of the strip so as to preserve the profile. The predetermined portion has a length equal to or greater than a circumference of an associated tire building drum. As set forth in the arguments relating to claim 1 above, none of the references singly or in combination provide the invention as set forth in claim 10. No proper modification or combination of references provides a profiled calendered strip that is fed to a press for in-line cure where the press platen preserves the profile of the strip.

B. Claims 1-8 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Böhm (U.S. Patent No. 4,089,360). Claims 2 and 6-8 have been canceled from the subject application in this Amendment B.

The reference to Böhm ('360) teaches an innerliner composite laminate comprising external layers of a soft rubber compound which is desensitized against irradiation cure, an internal layer of a hard rubber which is sensitized to cure when subjected to irradiation, and

another internal layer (barrier layer) which resists the passage of air. The internal layers are thicker in a predetermined area of the tire where the innerliner is subjected to the highest pressure in the shaping and curing operations. The laminate, after its construction, is subjected to an irradiation treatment which cross-links the sensitized layers and does not affect the desensitized layers. After the laminate is incorporated into the final product (tire), the remaining layers are cured prior to complete vulcanization.

Claim 1

THE REFERENCE TEACHES AWAY: A “teaching away” from applicant’s invention by a cited reference may be taken into consideration when determining the obviousness of an invention (*In re Deminski*, 250 USPQ 313). This reference does not teach or suggest the instant invention as claimed in claim 1. Rather, it teaches away. According to the teachings of the reference, the laminate 10, after its construction, is subjected to an irradiation treatment which cross-links the layer 12 and does not affect layers 11. The laminate is then placed in the final product and the subsequent processing steps accomplished to yield the final product, including vulcanization thereof which cures layers 11 and does not degrade layer 12. Böhm ‘360 teaches that a laminate having cured and uncured layers may be completely cured after its assembly into a final product.

Claim 1 is directed to a method from proving a precured innerliner. The claimed invention utilizes a press to in-lie cure a profiled calendered strip. The cited reference uses selective irradiation as a cure method.

THE SUBJECT MATTER OF THE CLAIMS MUST BE VIEWED AS A WHOLE AT THE TIME THE INVENTION WAS MADE: Each claim limitation must be considered and given its proper weight. The method of claim 1 provides that a predetermined portion of a calendered strip is precured before it is incorporated into the final product. The ‘360 reference teaches that the laminate is cured after it is incorporated into the final structure. (See Abstract) Therefore, *when viewed as a whole*, the claimed invention cannot be obvious in light of the Examiner’s combination.

One step of the claimed method includes utilizing the press to in-line cure a predetermined portion of said continuous strip of elastomeric material by engaging said press

platen with said predetermined portion of said continuous strip to preserve said cross-sectional profile. The cited reference does not teach or suggest this claimed step.

Claim 1 sets forth parameters for the thickness of the cross-sectional profile. The cited reference does not teach or suggest those claim limitations. The reference teaches only that the thickness of each layer is maintained in the same proportion to the other layers throughout the entire width of the strip.

THE PROPOSED MODIFICATION WOULD DESTROY THE TEACHINGS OF THE REFERENCE: The reference teaches that “it is critical to this invention that some of the layers be selectively sensitized or desensitized to react to irradiation treatment to provide these desired properties.” In other words, the laminate must not be completely cured before its incorporation into a final product (tire). However, the method of claim 1 provides the step of curing the predetermined portion of the continuous strip which becomes the innerliner for the tire. The Examiner’s proposed modification destroys the teachings of the reference and therefore, applicant’s invention is not obvious in light of its teachings.

Claims 3-5

Claims 3-5 each ultimately depend from claim 1. As such, the comments addressed to claim 1 apply equally well to claims 3-5 and are incorporated herein by reference.

As to claim 3, the cited reference does not teach or suggest a method including the step of winding a predetermined precured portion of the continuous strip having a predetermined cross-sectional profile onto a holding roll before it is wound onto a tire building drum. According to 35 U.S.C. § 103, the invention *as a whole* must be considered.

As to claim 4, the cited reference does not teach or suggest all of the features of claim 4 including providing a splice angle of at least 80°.

As to claim 5, the cited reference does not teach or suggest all of the features of claim 5 including using an adhesive to join the splice surfaces.

Claim 10

Claim 10 provides a *method* for providing a precured innerliner formed by utilizing calendering means to provide a profiled elastomeric strip. A press is then utilized to in-line cure a predetermined portion of the strip so as to preserve the profile. The predetermined portion has a length equal to or greater than a circumference of an associated tire building drum. As set forth in the arguments relating to claim 1 above, the reference does not provide the method as set forth in claim 10. No proper modification or combination of references provides a method of providing a profiled calendered strip that is fed to a press for in-line cure where the press platen preserves the profile of the strip.

CONCLUSION

Applicant believes that all requirements for patentability have been met according to 35 U.S.C. §§ 112, 102 and 103. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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